MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during November, 1884, based upon the reports from the regular and volunteer observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic ocean during the month are also given, and their approximate paths shown on chart i.

Under "Areas of low barometer" are described eleven atmospheric depressions, this number being one and eight-tenths less than the average for November during the last eleven years. The average hourly movement of the depressions for November, 1884, is thirty-five and two-tenths miles, which exceeds by five miles, the average hourly movement of the November storms during the preceding eight years. The storms numbered iii. and ix. were the severest that occurred during the month, and were accompanied by dangerous gales during their passage.

The month was unusually warm in the western parts of the country; it was slightly warmer than the average on the Atlantic coast, and slightly colder than the average in the lake region, central Ohio valley and Gulf states.

The precipitation was below the average in nearly all districts, the deficiencies being greatest in the northern and middle Pacific coast regions, and in the Ohio valley and Tennessee; it exceeded the average in Florida and the middle and southern slopes.

In the preparation of this REVIEW the following data, received up to December 20th, 1884, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-nine Signal Service stations and eighteen Canadian stations, as telegraphed to this office; one hundred and fifty-nine monthly journals; one hundred and sixty-four monthly means from the former, and eighteen monthly means from the latter; two hundred and sixty-six monthly registers from voluntary observers; forty-six monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Indiana, Iowa, Louisiana, Minnesota, Missouri, Nebraska, Ohio, and Tennessee, and of the Central Pacific Railway Company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[*Expressed in inches and hundredths.*]

The mean atmospheric pressure for November, 1884, determined from the tri-daily telegraphic observations of the Signal Service, is exhibited by the isobarometric lines on chart ii. The area of barometric minima, which has occupied the middle and southern plateau districts since April, has now disappeared (an increase in the monthly means over those for October of from .17 to .27 having taken place) and an area of barometric maxima occupies the middle plateau, the mean pressure at Salt Lake City, Utah, being 30.35. The isobar for 30.2 includes nearly the whole of the Rocky mountain region and extends southeastward to central Texas. The area of least pressure is shown over the Gulf of Saint Lawrence, the lowest barometric mean, 29.9, being reported from Father Point, Province of Quebec.

As compared with the preceding month, an increase has occurred in all districts west of the Mississippi river; a slight increase has also occurred in Mississippi, Alabama, Florida, and Wisconsin. If a line were drawn connecting the stations where no change has taken place, it would extend from Marquette, Michigan, through Milwaukee, Wisconsin, and Davenport, Iowa, to central Missouri, and thence southeastward through Memphis, Nashville, and Knoxville, Tennessee, to the south Atlantic coast between Jacksonville and Sanford, Florida. To the eastward of this line the barometric means have decreased, the departures being greatest (from .05 to .09) in the Saint Lawrence valley, lower lake region, New England, and middle Atlantic states, but are not so marked as in the districts where the pressure has increased. At Denver, Colorado, and Salt Lake City, Utah, an increase of .27 has occurred, and between the one hundredth and one hundred and seventeenth meridians, except in southern California, the increase is everywhere above .10, while along the Pacific coast it varies from .01 to .08.

The departures from the normal pressure are exhibited on chart iv., from which it will be seen that along the Pacific coast and over the eastern half of the country the mean pressure for November, 1884, is below the normal, while, over the extreme northwest, southern Texas, eastern Rocky mountain slope, and the western plateau districts it is above the normal. In the table of miscellaneous meteorological data for Signal Service stations will be found the departures for the several stations.

BAROMETRIC RANGES.

The monthly barometric ranges were greatest in the upper lake region and northern New England; they were least over the western portions of the country and the Florida peninsula. The extreme ranges are: least, .22 at Key West, Florida, and .32 at Los Angeles, California; greatest, 1.17 at Alpena, Michigan, and 1.20 and 1.34 at Portland and Eastport, Maine, respectively. In the table of miscellaneous meteorological data are given the monthly ranges at various stations.

AREAS OF HIGH BAROMETER.

Five areas of high barometer passed over the districts east of the Rocky mountains, while the barometer remained decidedly above the normal for the month over the plateau regions from the 1st to the 20th and during the latter part of